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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/488,351 | 01/20/2000 | Terry L. Cole | 2000.023000 | 4297 |
| 23720 | 7590 | 07/19/2004 | EXAMINER | |
| WILLIAMS, MORGAN & AMERSON, P.C. 10333 RICHMOND, SUITE 1100 HOUSTON, TX 77042 | | | AHN, SAM K | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2634 | 10 |

DATE MAILED: 07/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/488,351

Applicant(s)

COLE, TERRY L.

Examiner

Sam K. Ahn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment, filed on 4/26/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-32, 35 and 36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-6, 11-17, 21-25, 28-32, 35 and 36 is/are rejected.
- 7) ☒ Claim(s) 7-10, 18-20, 26 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 2-32,35 and 36 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2, 3, 5, 6, 11-14, 16,17, 21-25, 28, 29, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu in view of Wiese et al. (Wiese, cited previously).

Regarding claims 2,12,21,28,35 and 36, Wu teaches a method and apparatus comprising establishing a communication channel between a first transceiver and a second transceiver (see Fig.9) comprising determining (70C), and performing (72C), at the first transceiver (central office modem), a training parameter in response to establishing the communication channel (PSD REVERB), and providing (72C) the training parameter to the second transceiver (remote modem).

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However, Wu does not explicitly teach wherein the communication channel establishment was performed in low power mode.

Wiese discloses a method and apparatus comprising establishing a communication channel between a first transceiver and a second transceiver in low power mode, (note col.6, lines 16-33) wherein Wiese teaches transmission of an initialization signal at a lower power level or in a low power mode, and increasing the power level until the signal is received by the other transceiver.

Therefore, it would have been obvious to one skilled in the art at the time of the invention to initialize the communication channel in low power for the purpose of reducing power consumption and potentially minimize interference with other modem lines that may be affected as noise when high powered signaling is performed.

Regarding claims 3, 14, 24, 29, Wu in view of Wiese teach all subject matter claimed, as applied to claim 2 or 13. Wiese further teaches wherein transmission of remote initialization signal at a relatively low power level and incrementing until the signal is detected. (note col.6, lines 16-30) Therefore, it is inherent that the increment of level of power taught by Wiese is the smallest amount of power acceptable, since the signal is acceptable only after it has been detected.

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Regarding claims 5, 6, 16, 17, 25, Wu in view of Wiese teach all subject matter claimed, as applied to claim 2 or 13. Wiese further teaches computation of signal to noise ratio for determining the training parameter. (note claim 10) Signal to noise ratio includes determination of phase and amplitude distortion, and therefore it is inherent that the training parameters include determining phase and amplitude distortion of the communication channel.

Regarding claim 11, Wu in view of Wiese teach all subject matter claimed, as applied to claim 2. Wiese further teaches providing a training parameter to the first transceiver by the second transceiver. (see 239, 243 in Fig.5 and note col.9, lines 20-36)

Regarding claim 13, Wu in view of Wiese teach all subject matter claimed, as applied to claim 12. Wiese further teaches transmitting and receiving data with the transceiver (VTU-R). (see Fig.5)

Regarding claims 22 and 23, Wu in view of Wiese teach all subject matter claimed, as applied to claim 21. Wiese further teaches that the first and second transceiver is a DSL modem. (see Fig.1a where the remote (R1~RN and O1~ON are modems in the remote or customer area and the latter are modems in the central location)

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3. Claims 4, 15 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu in view of Wiese et al. (cited previously) and Palm.

Regarding claims 4, 15 and 30-32, Wu in view of Wiese teach all subject matter claimed, as applied to claims 2 or 13. However, Wu nor Wiese explicitly disclose power cutback in the range of 0-30 dB.

Palm teaches power adjustments wherein during initialization, power levels are incremented in the increments of 2 dB, a predetermined level.

(note col.6, lines 27-43) Therefore, it would have been obvious to one skilled in the art at the time of the invention to implement Wiese's teaching of initializing the communication channel in low power mode by incrementing in 2 dB, as taught by Palm, for the purpose of appropriately incrementing, without incrementing too rapidly, nor incrementing too slowly, and establish connection.

Allowable Subject Matter

4. Claims 7-10, 18-20 and 26-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. The following is a statement of reasons for the indication of allowable subject matter: Present application discloses establishing a connection between two transceivers or DSL modems in a low power mode by initially transmitting a signal from the first to the second transceiver in a low power and sequentially

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increasing the power level until the signal has been detected. Closest prior art, Wiese, teaches in the same field of endeavor, all the features explained. However, Wiese does not teach wherein a training parameter computed to determine the channel characteristic includes transmitter characteristics, such as symbol timing, carrier frequency and carrier phase.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Sam Ahn** whose telephone number is **(703) 305-0754**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Stephen Chin**, can be reached at **(703) 305-4714**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

P.O. Box 1450

Alexandria, VA 22313-1450

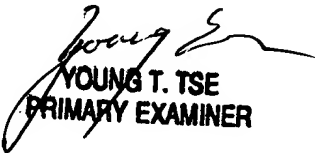
or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Sam K. Ahn
7/11/04


YOUNG T. TSE
PRIMARY EXAMINER